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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,252

12/19/2005

Takashi Watanabe

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EXAMINER

HUNG, YUBIN

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,252	<b>Applicant(s)</b> WATANABE ET AL.	
	<b>Examiner</b> YUBIN HUNG	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12/19/05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 22-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/19/05</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. Per lines 19 and 21 on page 17 of the instant application figures 15 and 16 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. Claims 25, 27, 28, 31 are objected to because of the following informalities:
- Claims 25, 27, 29 and 31, respective lines 1-2: for clarity replace "said region" or "said rectangular region" to "said generated rectangular region"; for claim 27 also replace "7region" in line 2 to "region"

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 22-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 22 recites the limitations "said apparatus" and "said frame" in lines 5 and 6, respectively. Since there are multiple antecedent bases, the mete and bound cannot be ascertained. Additionally, claim 22 also recites the limitation "said predetermined frame" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Dependent claims 24, 25, 28, 29, 32 and 34 are similarly rejected due to inheritance.

6. Claim 23 recites the limitations "said apparatus" and "said even number field or odd number field" in lines 5-6 and lines 7-8, respectively. Since there are multiple antecedent bases, the mete and bound cannot be ascertained. Additionally, claim 23 also recites the limitation "said predetermined even number field or odd number field" in line 13. There is insufficient antecedent basis for this limitation in the claim. Dependent claims 26, 27, 30, 31, 33 and 35 are similarly rejected due to inheritance.

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7. Claim 24, and similarly claims 26, 28 and 30, recites the limitation "said each blocks adjacent in a horizontal or vertical direction" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim. Respective dependent claims 25, 27, 29 and 31 are similarly rejected.

8. Claim 36 recites the limitation "said frame" in lines 7-8. Since there are multiple antecedent bases, the mete and bound cannot be ascertained. Additionally, claim 36 also recites the limitation "said predetermined frame" in line 10. There is insufficient antecedent basis for this limitation in the claim. Dependent claim 37 is similarly rejected due to inheritance.

9. Claim 38 recites the limitation "said even number field or odd number field" in lines 7-8. Since there are multiple antecedent bases, the mete and bound cannot be ascertained. Additionally, claim 38 also recites the limitation "said predetermined even number field or odd number field" in line 13. There is insufficient antecedent basis for this limitation in the claim. Dependent claim 39 is similarly rejected due to inheritance.

10. Claim 40 recites the limitation "said frame" in line 6. Since there are multiple antecedent bases, the mete and bound cannot be ascertained. Additionally, claim 40 also recites the limitation "said predetermined frame" in lines 9-10. There is insufficient antecedent basis for this limitation in the claim. Claim 42 is similarly rejected.

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11. Claim 41 recites the limitation “said even number field or odd number field” in lines 7-8. Since there are multiple antecedent bases, the mete and bound cannot be ascertained. Additionally, claim 41 also recites the limitation “said predetermined even number field or odd number field” in line 13. There is insufficient antecedent basis for this limitation in the claim. Claim 43 is similarly rejected.

### ***Claim Rejections - 35 USC § 101***

12. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

13. Claims 40 and 41 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent<sup>1</sup> and recent Federal Circuit decisions<sup>2</sup> indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to a particular machine or apparatus, or (2) transform a particular article to a different state or thing. This is referred to as the “machine or transformation test”, whereby the recitation of a particular machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility (See *Benson*, 409 U.S. at 71-72), and the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity (See *Flook*, 437 U.S. at

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<sup>1</sup> *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

<sup>2</sup> *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

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590"). While the instant claims recite a series of steps or acts to be performed, the claim(s) neither transform an article nor positively tie to a particular machine that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

The steps as recited in the claims could be performed manually, and does not require machine involvement as currently claimed. Furthermore, the claims do not recite a qualifying transformation of data because there is no recitation of an external (non-data) representation of the physical object or substance related to the image data.

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 22-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA (Admitted Prior Art as disclosed on pp. 1-2 and Fig. 15, including the incorporated

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JP-A No. H10-145796, of the instant application) and further in view of Colle (US 2003/0222995).

16. Regarding claim 22, and similarly claims 40 and 42, APA discloses a system comprising a transmitting apparatus (e.g., a PC) that extracts and transmits to a receiving device (e.g. a liquid crystal display projector) a portion of a frame that contains areas that have changed from the preceding frame [P. 2 and Fig. 15]. However, APA does not expressly disclose the limitations set forth in claim 23, which are taught by Colle, see below.

Colle discloses an apparatus [Fig. 3, especially refs. 310 (serves as a block dividing unit, a region determining unit and an extracting unit), 360 (output device such as a display) and 370 (transmitting unit); paragraphs 42-51, especially 43] comprising:

- a block dividing unit zone-dividing said frame into a predetermined number of blocks in parallel to the scanning lines of said output unit of said receiving apparatus

[Fig. 3, ref. 310 (serves as a block dividing unit) and paragraph 43; Fig. 5a, especially ref. 526 (dividing into blocks; note that a screen capture is an image); Fig. 6; paragraphs 74-85, especially 74-76. Note that the blocks are in parallel to the scanning direction, be it horizontal (the usual case) or vertical (e.g., see paragraph 49)]



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- a region determining unit comparing each block of said predetermined frame generated by said block dividing unit with each block corresponding to the block within an immediately preceding frame of said predetermined frame, and thereby determining a rectangular region having a different pixel value

[Fig. 3, ref. 310 (serves as a region determining unit); Fig. 4; Figs. 5b-5c, especially refs. 540-542, 562 and 592 (determining a rectangular region having a different pixel value with preceding frame  $F_{k-1}$ ); Fig. 6, ref. 620 (rectangular region having a different pixel value); paragraphs 77-85, especially 80-81. Note that the alternative disclosed in the last 6 lines of paragraph 81 can prevent a problem with the APA as shown in Fig. 16 of the instant application]

- an extracting unit extracting a video signal included in (1) the determined rectangular region or (2) a rectangular region obtained from the determined rectangular region by applying a predetermined rule

[Fig. 3, ref. 310 (serves as an extracting unit); Fig. 4, especially ref. 460; Figs. 5b-5c, especially refs. 564 and 594 (extracting video signal); paragraphs 66-85, especially 72, 83 and 85. Note that the contents of the rectangle (e.g., Fig. 6, ref. 620) are extracted for screen updates]

- a transmitting unit coding the video signal extracted by said extracting unit and then transmitting the signal to said receiving apparatus

[Fig. 3, ref. 370 (transmitting unit); Fig. 4, especially ref. 460; Figs. 5b-5c, especially refs. 564 and 594 (extracting video signal); paragraphs 50, 66-85, especially 50, 72, 83 and 85. Note that per paragraph 50, captured screen

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information is compressed and transmitted. While not expressly disclosed, it would have been obvious to one of ordinary skill in the art to only transmit the changed part as enclosed in the rectangle to further reduce the size of the data to be transmitted, in addition to the reduction achieved by compression]

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to modify APA with the teachings of Colle to obtain the invention of claim 22. The reasons for doing so at least would have been to prevent a problem with the APA as shown in Fig. 16 of the instant application, as the alternative disclosed in the last 6 lines of paragraph 81 of Colle clearly can accomplish.

17. Claim 23 (and similarly claims 41 and 43), is similarly analyzed and rejected as per the analysis of claim 22 as well as the fact that a field (in an interlaced system) is also an image with alternating odd and even fields (i.e., a preceding field and the current field have different polarity).

18. Regarding claim 24, and similarly claims 26, 28 and 30, Colle further discloses

- wherein said predetermined rule is that when each of said blocks adjacent in a horizontal or vertical direction has a rectangular region determined by said region determining unit, a rectangular region is generated that includes both of the rectangular regions of said blocks adjacent in a horizontal or vertical direction

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[Paragraph 81, especially the last 6 lines. Note that contiguous, or horizontally/vertically adjacent, blocks, are included in a rectangle. Regarding claims 28 and 30 note that in Colle the entire block is a rectangular transmission region]

19. Regarding claim 25, and similarly claims 27, 29 and 31, Colle further discloses
- wherein said region that includes both of the rectangular regions of said blocks adjacent in a horizontal or vertical direction indicates a minimum rectangular region that includes both of said rectangular regions of said blocks adjacent in a horizontal or vertical direction

[Fig. 6, ref. 629; Paragraph 81. Note Fig. 6, ref. 620 suggests using a minimum bounding rectangle (and the reasons would have been to reduce the amount of data to be transmitted)]

20. Regarding claim 32, and similarly claim 33, Colle further discloses
- wherein said region determining unit determines said rectangular region in parallel to the scanning lines of said output unit of said receiving apparatus
- [Per the analysis of claim 1; especially note that per Fig. 5b and 5c (the loop between 536 and 580), the rectangles are determined on a row-by-row basis (i.e., parallel to the scanning lines)]

21. Regarding claim 34, and similarly claims 35-39, APA further discloses

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- said transmitting apparatus serves also as said video signal generating apparatus; said transmitting apparatus and said video signal generating apparatus are a personal computer; and said receiving apparatus is a liquid crystal display projector, a DLP projector, or a PDP

[P. 2, 1<sup>st</sup> complete paragraph]

### ***Conclusion and Contact Information***

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Glickman (US 2005/0129323) – discloses dividing corresponding regions of adjacent frames that are different
- Golin (US 5,568,569) – discloses merging adjacent blocks
- Kanno et al. (US 5,687,252) – discloses generating circumscribing rectangles

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUBIN HUNG whose telephone number is (571)272-7451. The examiner can normally be reached on 7:30 - 4:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yubin Hung/  
Primary Examiner, Art Unit 2624

February 12, 2009